

IN THE CLAIMS:

Please **CANCEL** claims 3, 8-12, 19-23, 28-32, and 45-51 without prejudice or disclaimer, **AMEND** claims 1, 2, 15-18, 24-27, 52-54, 58, 59, 61, and 62, and **ADD** claims 64-78, as follows:

1. (CURRENTLY AMENDED) A disc for use with a recording and/or reproducing apparatus, the disc comprising:

a user data area in which user data is recorded;

a spare area other than the user data area and which ~~includes~~ comprises a substitute area for a defective area existing in the user data area; and

a temporary defect management area which comprises temporary defect information and temporary defect management information recorded for a recording operation for use by the recording and/or reproducing apparatus to perform disc defect management,

wherein the temporary defect management area includes an address area which ~~includes~~ comprises an address of a last data that is last recorded in the user data area and an address of a replacement data recorded in the spare area and which ~~is~~ are accessed by the recording and/or reproducing apparatus.

2. (CURRENTLY AMENDED) The disc of claim 1, ~~further comprising a~~ wherein the temporary defect management area ~~which includes~~ comprises temporary defect information and temporary defect management information recorded for each of a plurality of recording operations for use by the recording and/or reproducing apparatus to perform disc defect management, ~~wherein the temporary defect management area includes the address area.~~

3. (CANCELED)

4. (ORIGINAL) The disc of claim 2, wherein at least one of the temporary defect information and the temporary defect management information is repeatedly recorded on the disc.

5. (ORIGINAL) The disc of claim 2, further comprising at least one of a lead-in and a lead-out area other than the user data area and the spare area, wherein the temporary defect management area is formed in the at least one of the lead-in area and the lead-out area.

6. (ORIGINAL) The disc of claim 2, wherein the temporary defect management area further comprises a pointer to a recording position of the temporary defect information.

7. (ORIGINAL) The disc of claim 2, wherein the temporary defect management information is recorded to correspond to the temporary defect information in the temporary defect management area, the temporary defect information being recorded for each of a plurality of recording operations in which the user data is recorded in the user data area.

8-12. (CANCELED)

13. (ORIGINAL) The disc of claim 1, further comprising a defect management area that is formed in at least one of the lead-in area and the lead-out area,

wherein the defect management area further comprises a last recorded temporary defect information and a last recorded temporary defect management information recorded as defect information and defect management information, respectively, during finalization of the disc, and

the last recorded temporary defect information and the last recorded temporary defect management information comprise the temporary defect information and the temporary defect management information last recorded in the temporary defect management area.

14. (ORIGINAL) The disc of claim 13, further comprising a plurality of the defect management areas.

15. (CURRENTLY AMENDED) A method of managing a defect in a disc, the disc comprising a user data area and a spare area other than the user data area, the method comprising:

recording user data in the user data area;

again recording the user data, which is recorded in a defective area of the user data area in which a defect exists, in the spare area so as to make replacement data for the user data recorded in the defective area; and

recording an address of a last user data, which is last recorded in the user data area, and an address of a last replacement data, which is recorded in the spare area, in a temporary defect management area that is on the disc to perform disc defect management.

16. (CURRENTLY AMENDED) The method of claim 15, wherein the recording the addresses further comprises recording the address of last recorded user data and the an address of a last recorded replacement data which is recorded in the spare area to correspond to each other in a record layer of the disc.

17. (CURRENTLY AMENDED) The method of claim 15, wherein the recording the addresses further comprises recording the address of the last recorded user data and the address of the last recorded replacement data as temporary defect management information in the temporary defect management area.

18. (CURRENTLY AMENDED) The method of claim 17, wherein the recording the addresses further comprises ~~repeatedly recording the temporary defect information~~ comprising defect position information in the temporary defect management area.

19-23. (CANCELED)

24. (CURRENTLY AMENDED) A recording and/or reproducing apparatus for use with a disc having a user data area, a temporary defect management area, and a spare area other than the user data area, the apparatus comprising:

a recording/reading unit that records data on or reads data from the disc; and

a controller that controls the recording/reading unit to

record user data in the user data area of the disc,

again record user data that was recorded in a defective area of the user data area in the spare area so as to make replacement data for the user data recorded in the defective area, and

record an address of last data, which is last recorded in the user data area, ~~and an address of last replacement data, which is last recorded in the spare area,~~ in the temporary defect management area that is used by the apparatus to perform disc defect management with respect to the disc.

25. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 24, wherein the controller ~~further controls the recording/reading unit to record the address of last the last recorded data and the address of the last recorded replacement data~~ in a record layer of the disc so that the addresses correspond to each other.

26. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 24, wherein the controller ~~further~~ controls the recording/reading unit to record the address of the last recorded data and the address of the last recorded replacement data in a record layer of the disc as temporary defect information in the temporary defect management area.

27. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 26, wherein the controller ~~further~~ controls the recording/reading unit to repeatedly record the temporary defect information on the disc.

28-32. (CANCELED)

33. (ORIGINAL) The disc of claim 1, wherein the disc is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the disc.

34. (ORIGINAL) The method of claim 15, wherein the disc is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the disc.

35. (ORIGINAL) The recording and/or reproducing apparatus of claim 24, wherein the disc is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the disc.

36. (ORIGINAL) A storage medium for use with a recording and/or reproducing apparatus, the storage medium comprising:

a user data area in which user data is recorded, the user data area comprising a first defective area; and

a management area other than the user data area and which includes a first temporary defect information area corresponding to the first defective area and comprising first temporary defect information regarding the first defective area and a copy of the first temporary defect information that consists of the first temporary defect information,

wherein the management area is accessed by the recording and/or reproducing apparatus to perform defect management.

37. (ORIGINAL) The storage medium of claim 36, wherein:
the user data area further comprises a second defective area,
the management area further comprises a second temporary defect information area
corresponding to the second defective area and comprising second temporary defect
information regarding the second defective area and a copy of the second temporary defect
information that consists of the second temporary defect information.

38. (ORIGINAL) The storage medium of claim 37, wherein:
the second temporary defect information comprises the first temporary defect information
and information regarding the second defective area, and
the first temporary defect information does not include information regarding the second
defective area.

39. (ORIGINAL) The storage medium of claim 38, further comprising a defect
management area other than the user data area and which includes the second temporary
defect information.

40. (ORIGINAL) The storage medium of claim 36, wherein the management area further
comprises a first temporary defect management information area corresponding to the first
temporary defect information area and comprising first temporary defect management
information regarding the first temporary defect information and a copy of the first temporary
defect management information that consists of the first temporary defect management
information.

41. (ORIGINAL) The storage medium of claim 40, wherein:
the first temporary defect management information comprises a pointer to a position of
the first temporary defect information, and
the first temporary defect information comprises a pointer to a position of the first
temporary defect.

42. (ORIGINAL) The storage medium of claim 41, further comprising a spare area other
than the user data area and which comprises first replacement data replacing a portion of the
user data recorded in the first defective area,

wherein the first temporary defect information further comprises a pointer to a position of the first replacement data.

43. (ORIGINAL) The storage medium of claim 42, wherein the first temporary defect management information further includes an address of the first replacement data, and an address of a last portion of the user data to be recorded prior to recording of the first temporary defect management information.

44. (ORIGINAL) The storage medium of claim 36, wherein the storage medium is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the storage medium.

45-51. (CANCELED)

52. (CURRENTLY AMENDED) A computer readable medium encoded with processing instructions for implementing a method of managing a defect in a storage medium performed by a computer, the method comprising:

transferring user data with respect to a user data area of the storage medium, the user data area comprising a first defective area with respect to which a first portion of the user data is transferred;

transferring first replacement data comprising the first portion of the user data with respect to a spare area of the storage medium other than the user data area; and

transferring first management information with respect to a temporary defect management area of the storage medium so as to manage the user data and the first replacement data, the first management information comprising ~~an address of the first replacement data and~~ an address of a last portion of the user data to be recorded on the storage medium prior to creation of the first management information.

53. (CURRENTLY AMENDED) The computer readable medium of claim 52, wherein the first management information further comprises:

first defect information comprising a pointer to the first defective area and a pointer to the first replacement data, and

first defect management information comprising a pointer to the first defect information, the address of the last portion of the user data, and ~~the~~an address of the first replacement data or a next address of the spare area for a next defective area replacement.

54. (CURRENTLY AMENDED) The computer readable medium of claim 52, wherein:
if the storage medium is not to be finalized, the transferring the first management information comprises transferring the first management information with respect to ~~a~~the temporary defect management area,
if the storage medium is to be finalized, the transferring the first management information comprises transferring the first management information with respect to a defect management area, and
the defect management area is other than the temporary defect management area.

55. (ORIGINAL) The computer readable medium of claim 52, wherein:
the user data is recorded in blocks,
the first defect information further comprises state information indicating and differentiating between a first block type and a second block type, and
the transferring the first management information further comprises,
if the state information indicates the first block type, determining that the first defective area comprises a first number of continuous blocks, and
if the state information indicates the second block type, determining that the first defective area consists of a second number of blocks which is less than the first number of blocks.

56. (ORIGINAL) The computer readable medium of claim 52, wherein the transferring the first management information comprises recording in a first temporary management area the first management information and a copy of the first management information consisting of the first management information.

57. (ORIGINAL) The computer readable medium of claim 52, wherein the storage medium is a write-once storage medium having a property which prevents, after the data is recorded on an area of the storage medium, new data from being written to the area of the storage medium.

58. (CURRENTLY AMENDED) A recording and/or reproducing apparatus for use with a storage medium having a user data area, a temporary defect management area, and a spare area other than the user data area, the apparatus comprising:

a pickup unit that transfers user data with respect to the user data area, the user data area comprising a first defective area; and

a controller that determines an available portion of the user data area and the spare area using a first address and a second address and controls the pickup unit to

transfer the user data with respect to the user data area,

transfer first replacement data with respect to the spare area, the first replacement data comprising a portion of the user data that was recorded in the first defective area, and

transfer first management information with respect to the management area, the first management information being used by the controller to manage the user data and the first replacement data and comprising the first address comprising an address of the first replacement data or a next address of the spare area for a next defective area replacement, and the second address comprising an address of a last portion of the user data to be recorded in the user data area prior to creation of the first defect information.

59. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 58, wherein the first management information further comprises:

first defect information comprising a pointer to the first defective area and a pointer to the first replacement data, and

first defect management information comprising a pointer to the first defect information, the address of the last portion of the user data, and the address of the first replacement data or the next address of the spare area for the next defective area replacement.

60. (ORIGINAL) The recording and/or reproducing apparatus of claim 58, wherein:

if the storage medium is not to be finalized, the controller controls the pickup unit to transfer the first management information with respect to a temporary defect management area of the management area,

if the storage medium is to be finalized, the controller controls the pickup unit to transfer the first management information with respect to a defect management area of the management area, and

the defect management area is other than the temporary defect management area.

61. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 58, wherein:

the user data is recorded in blocks,
the first defect information further comprises state information indicating and differentiating between a first block type and a second block type, and
the controller ~~further~~,
if the state information indicates the first block type, determines that the first defective area comprises a first number of continuous blocks, and
if the state information indicates the second block type, determines that the first defective area consists of a second number of blocks which is less than the first number of blocks.

62. (CURRENTLY AMENDED) The recording and/or reproducing apparatus of claim 58, wherein the controller ~~further~~ controls the pickup unit to record in a first temporary management area the first management information and a copy of the first management information consisting of the first management information.

63. (ORIGINAL) The recording and/or reproducing apparatus of claim 58, wherein the storage medium is a write-once storage medium having a property which prevents, after the data is recorded on an area of the storage medium, new data from being written to the area of the storage medium.

64. (NEW) The disc of claim 1, wherein the address area further comprises a next address of the spare area for next defective area replacement.

65. (NEW) The disc of claim 1, wherein the address area further comprises an address of a replacement data recorded in the spare area.

66. (NEW) The method of claim 15, wherein the recording comprises recording the address of the last user data and a next address of the spare area for next defective area replacement.

67. (NEW) A computer-readable medium comprising computer-executable instructions for performing the method recited in claim 15.

68. (NEW) A method of accessing data in a disc, the disc comprising a user data area and a spare area other than the user data area having replacement data for user data recorded in a defective area of the user data area, the method comprising:

reading temporary defect information and temporary defect management information to manage the temporary defect information in a temporary defect management area of the disc, wherein the temporary defect management information comprises an address of last user data that is last recorded in the user data area; and

accessing the recorded user data based on the temporary defect information and the temporary defect management information.

69. (NEW) The method of claim 68, wherein the temporary defect information comprises defect position information.

70. (NEW) The method of claim 68, wherein:

the disc further comprises a defect management area;

the reading comprises reading temporary defect information and temporary defect management information in the defect management area and/or the temporary defect management area; and

the accessing comprises accessing the recorded user data based on the read temporary defect information and the temporary defect management information.

71. (NEW) The method of claim 68, wherein the disc is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the disc.

72. (NEW) A computer-readable medium comprising computer-executable instructions for performing the operations recited in claim 68.

73. (NEW) The recording apparatus of claim 24, wherein the controller controls the recording/reading unit to record a next address of the spare area for next defective area replacement.

74. (NEW) An apparatus for use with a disc having a user data area, a temporary defect management area, and a spare area other than the user data area, the apparatus comprising:

a reading unit that reads data from the disc; and

a controller that controls the reading unit to read temporary defect information and temporary defect management information to manage the temporary defect information in the temporary defect management area of the disc, wherein the temporary defect management information comprises an address of last user data that is last recorded in the user data area, and access recorded user data based on the temporary defect information and the temporary defect management information.

75. (NEW) The apparatus of claim 74, wherein the temporary defect information comprises defect position information.

76. (NEW) The apparatus of claim 74, wherein the disc is a write-once storage medium having a property which prevents, after the data is recorded on an area of the disc, new data from being written to the area of the disc.

77. (NEW) The reproducing apparatus of claim 74, wherein:

the disc further comprises a defect management area;

the reading comprises reading temporary defect information and temporary defect management information in the defect management area and/or the temporary defect management area; and

the accessing comprises accessing the recorded user data based on the read temporary defect information and the temporary defect management information.

78. (NEW) The disc of claim 65, further comprising a record layer, wherein the address of data and the address of the replacement area are recorded to correspond to each other in the record layer.